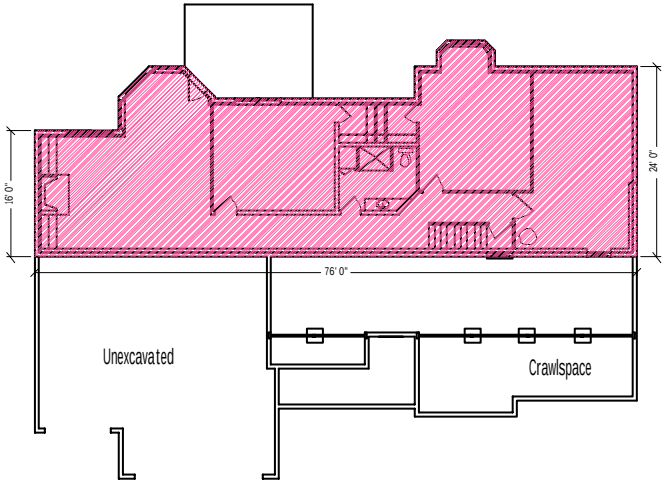
OFFICE OF
BUILDING TECHNOLOGY,
STATE AND COMMUNITY PROGRAMS

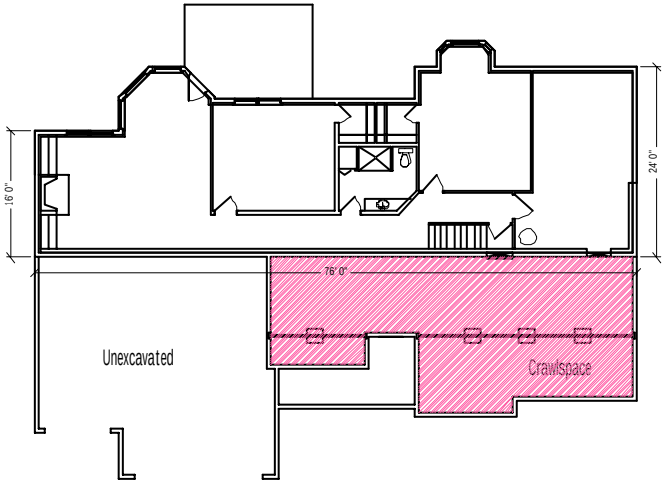
Case Study - Jones Residence

Hickman, Kentucky

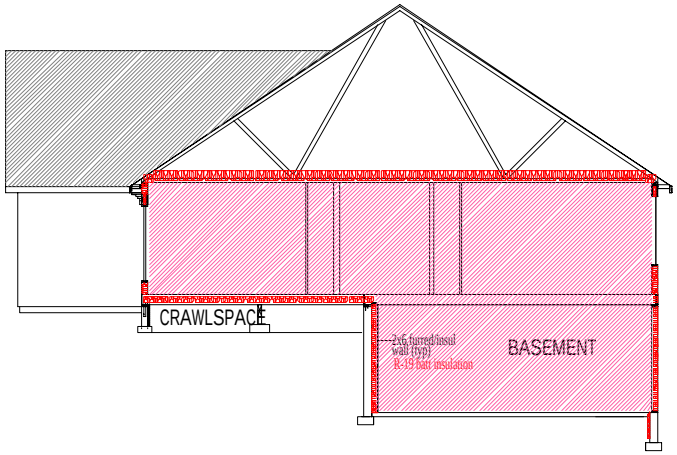
Building Envelope

Conditioned Basement





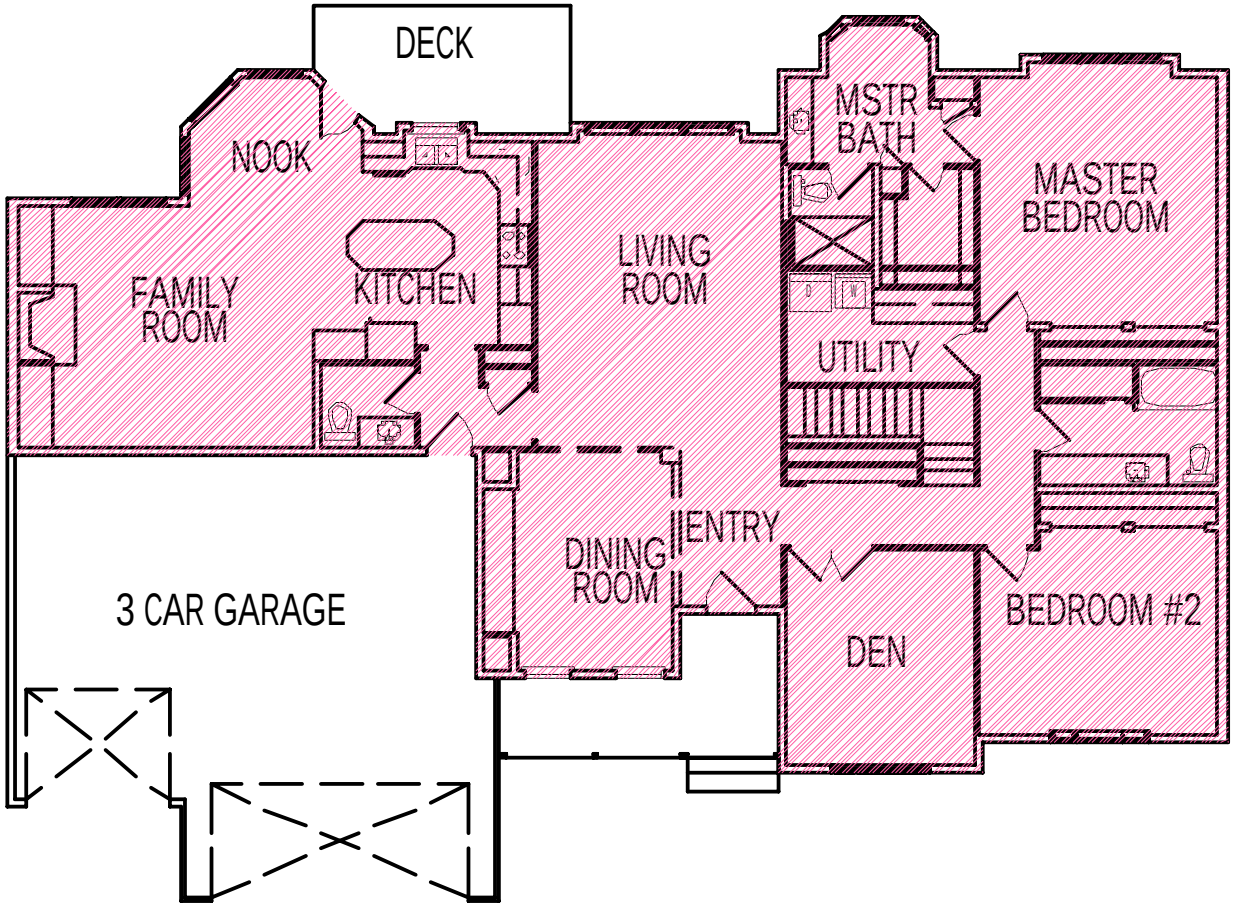
Conditioned Main Floor



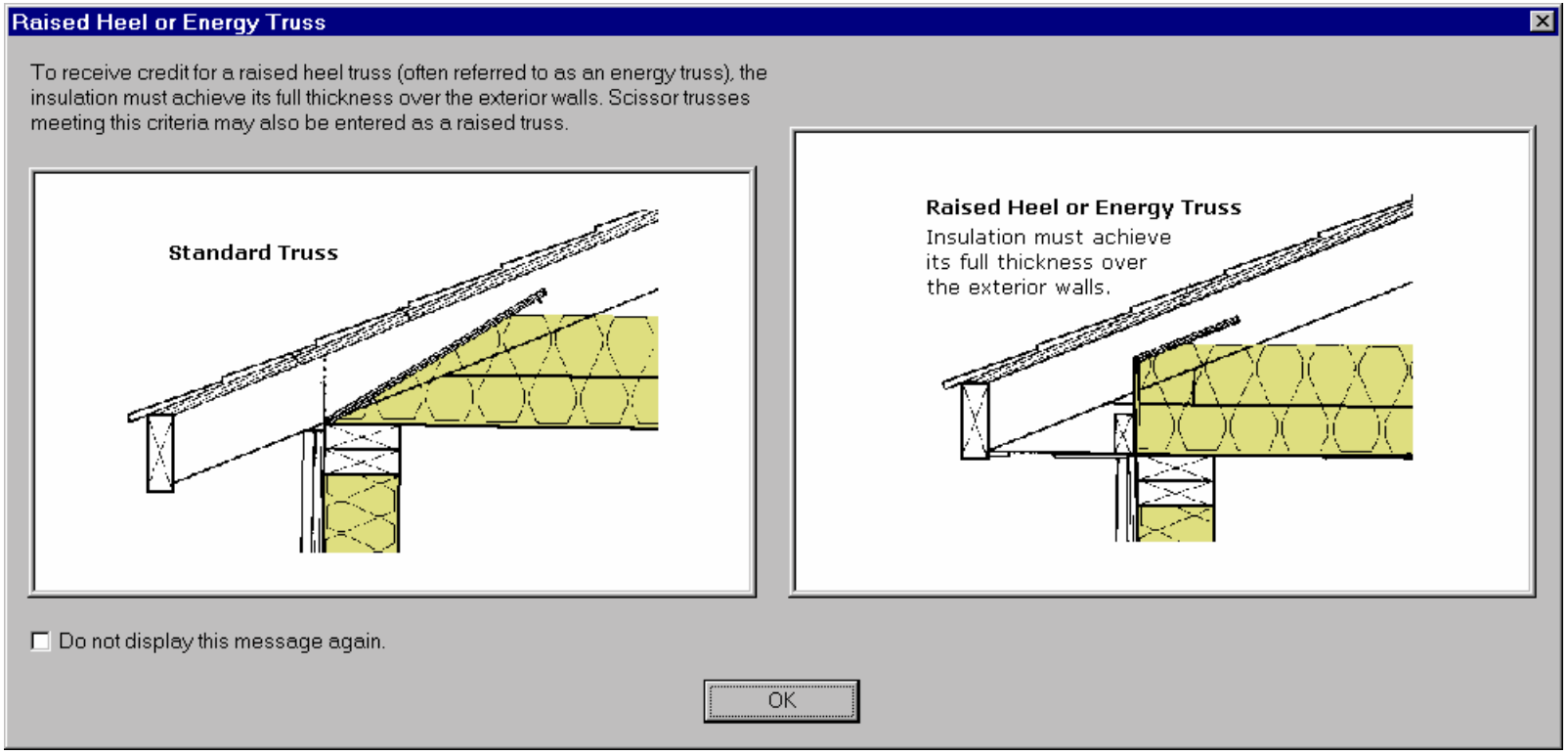
Building Section

Ceiling Area

Ceiling Area
2415 s.f.



☞Raised Heel or EnergyTruss



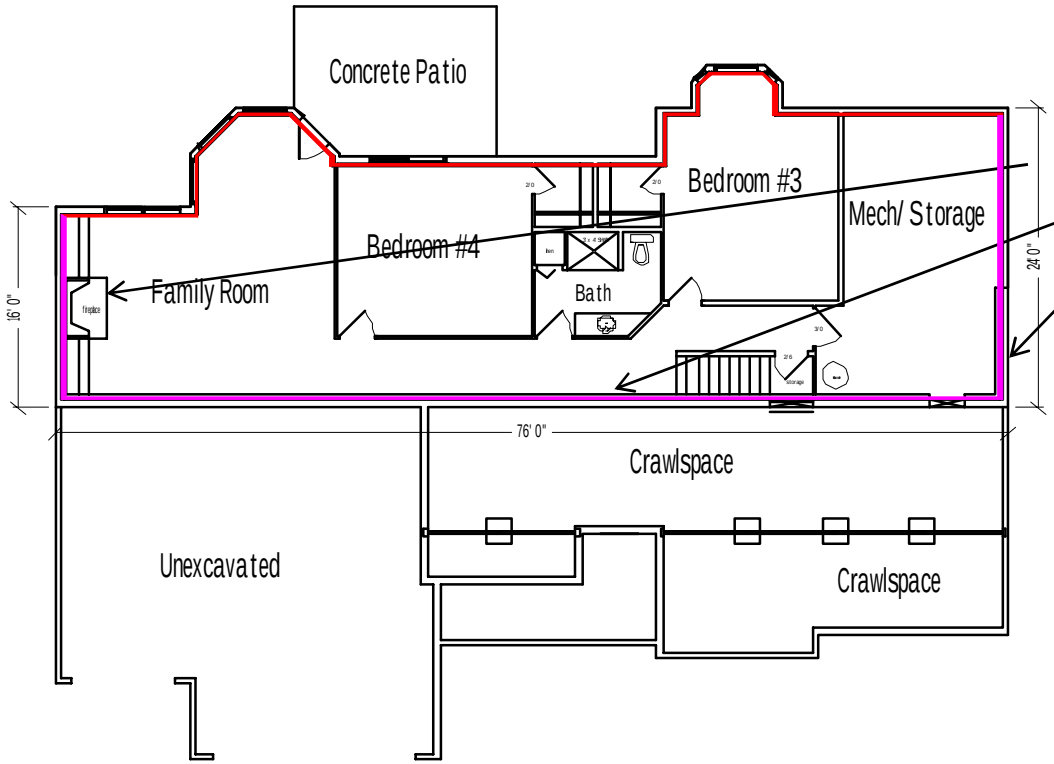
Basement Wall Areas

Above Grade Bsmt Walls (exterior wood) - **837 s.f.** (93' x 9')
(entered as wood frame wall not a basement wall)

Below Grade Bsmt Walls – **1044 s.f.** (16 x9' + 24 x9' + 76'x9')
(solid concrete or masonry)

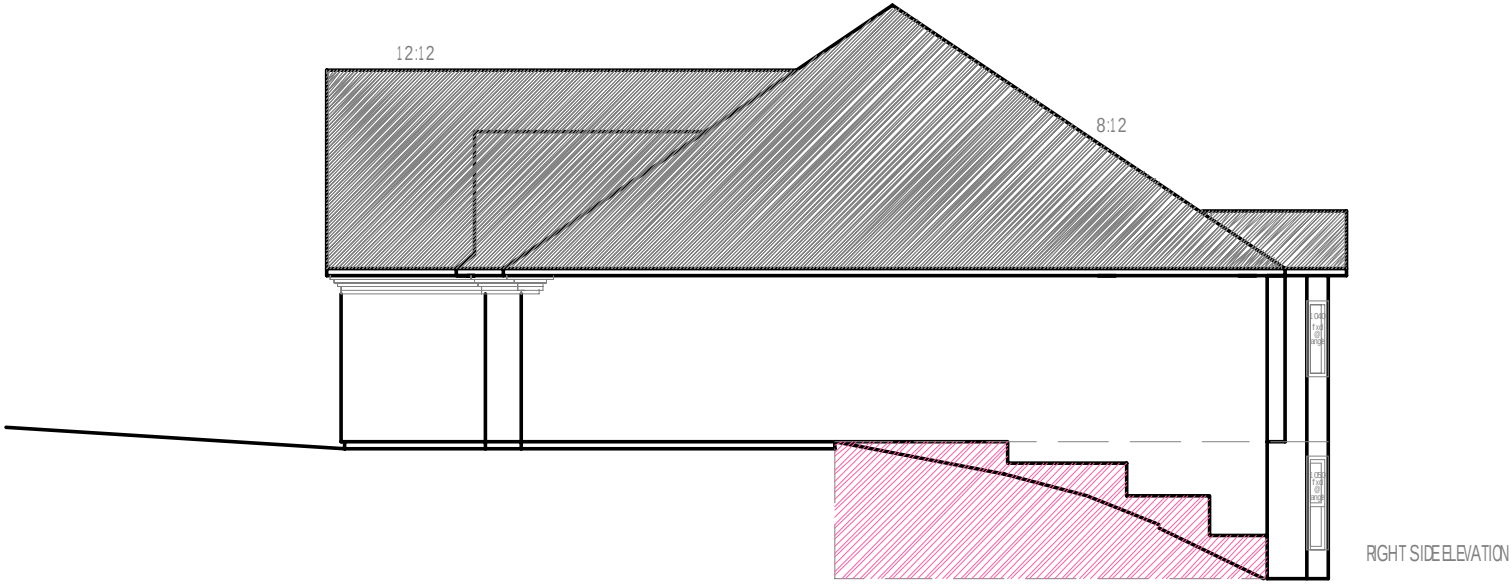
Above Grade
Bmst Walls (exterior wood) – **837 s.f.**

Below grade basement walls – **1044 s.f.**
Solid concrete or masonry



Basement Walls -

- below grade

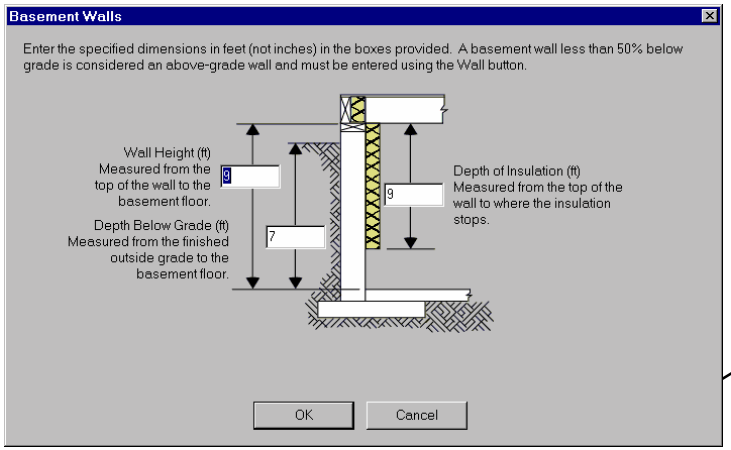


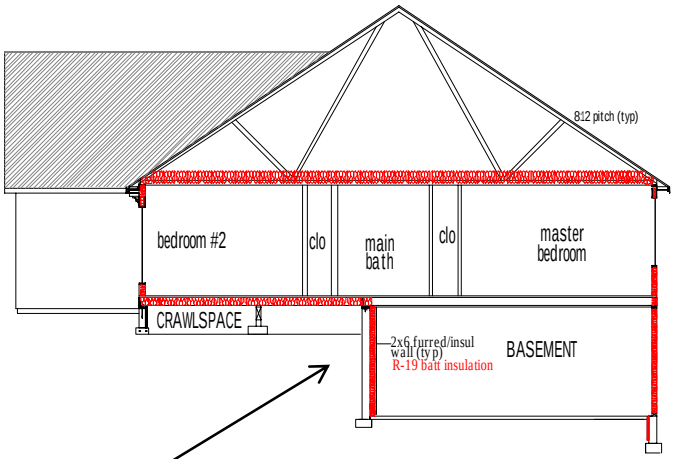
>50% below grade =

below grade concrete basement wall

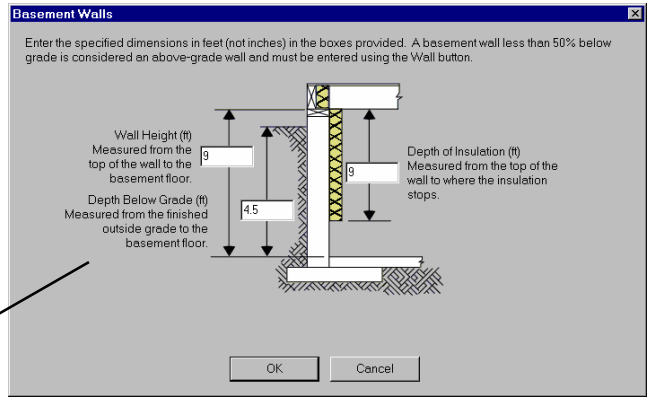
Basement Walls -

- MECcheck inputs

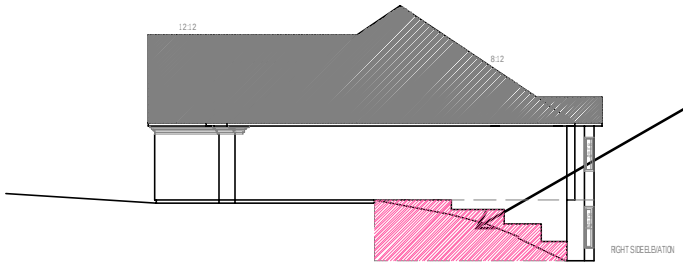




"side" below grade basement walls



"back" below grade basement wall

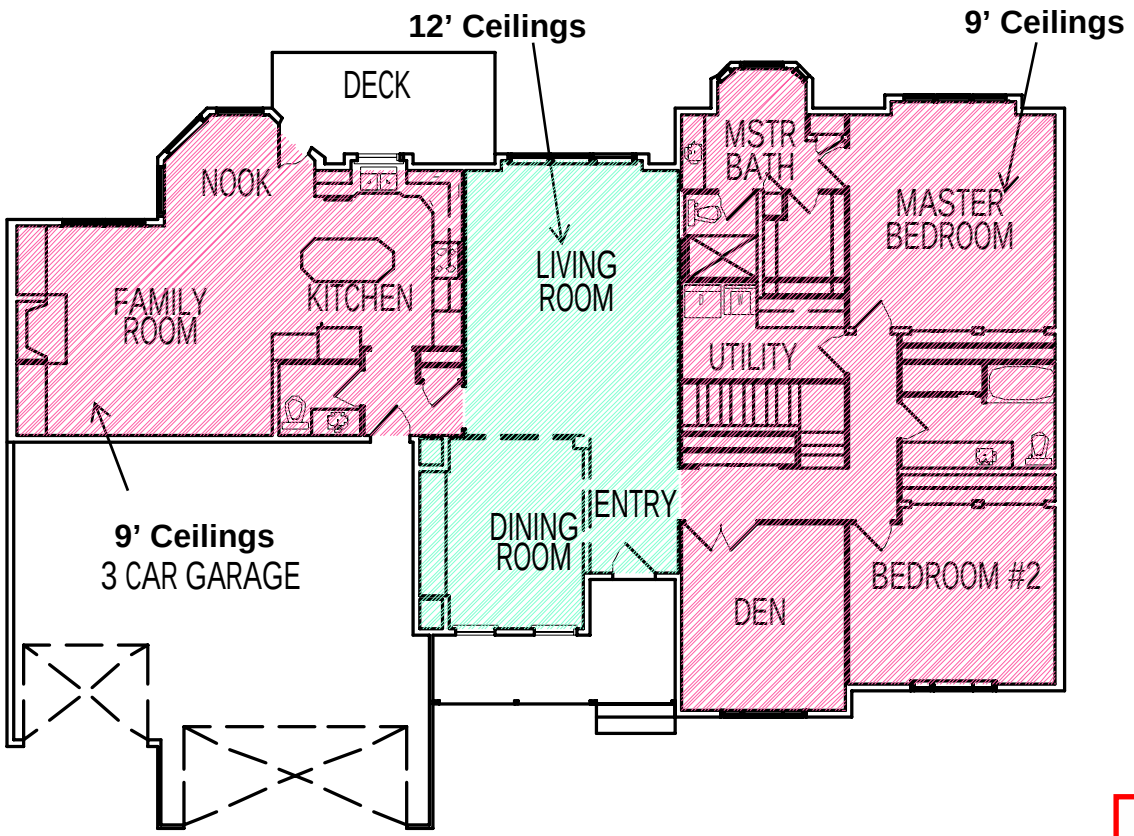


Exterior Wall Areas

9' Exterior Walls - **2180 s.f.**

12' Exterior Walls - **689 s.f.**

3' knee walls (between 9'&12' sections) – **153 s.f.**



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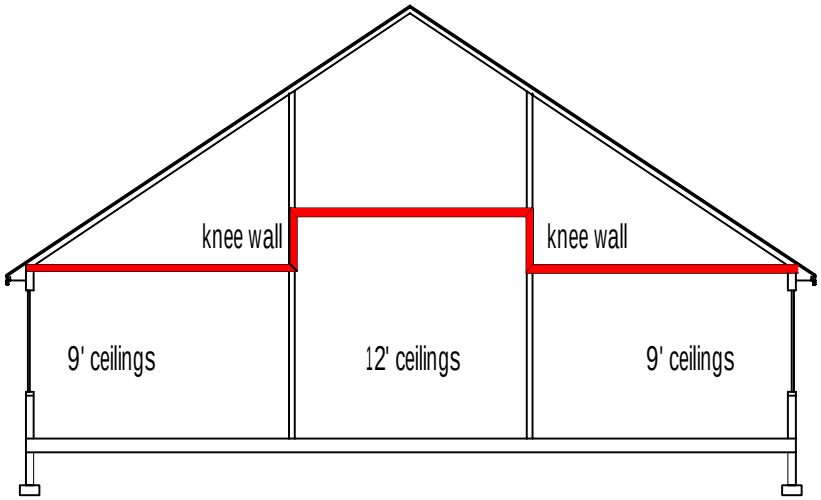
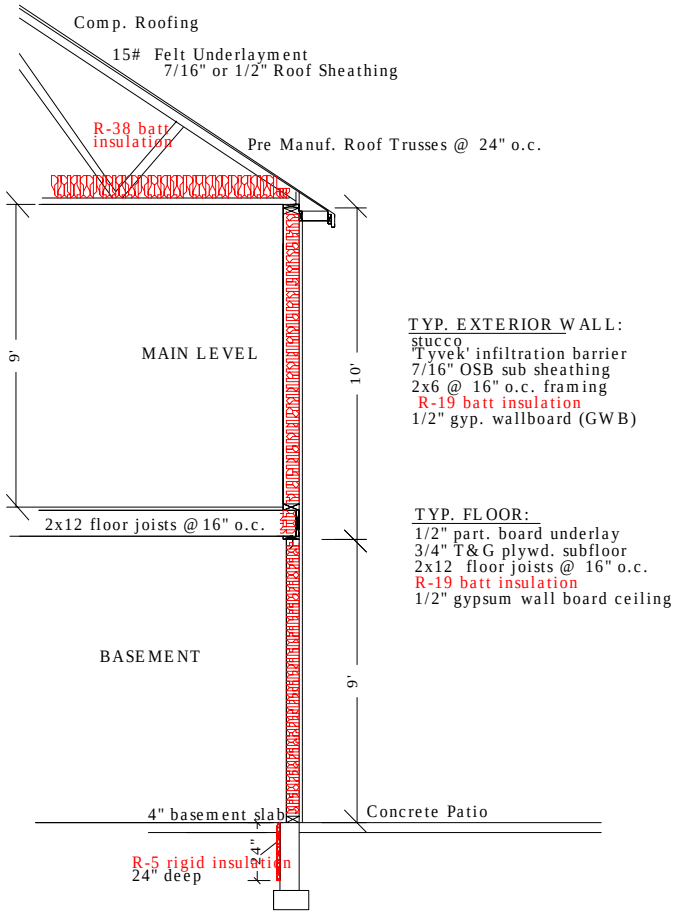
Insulated Knee Walls



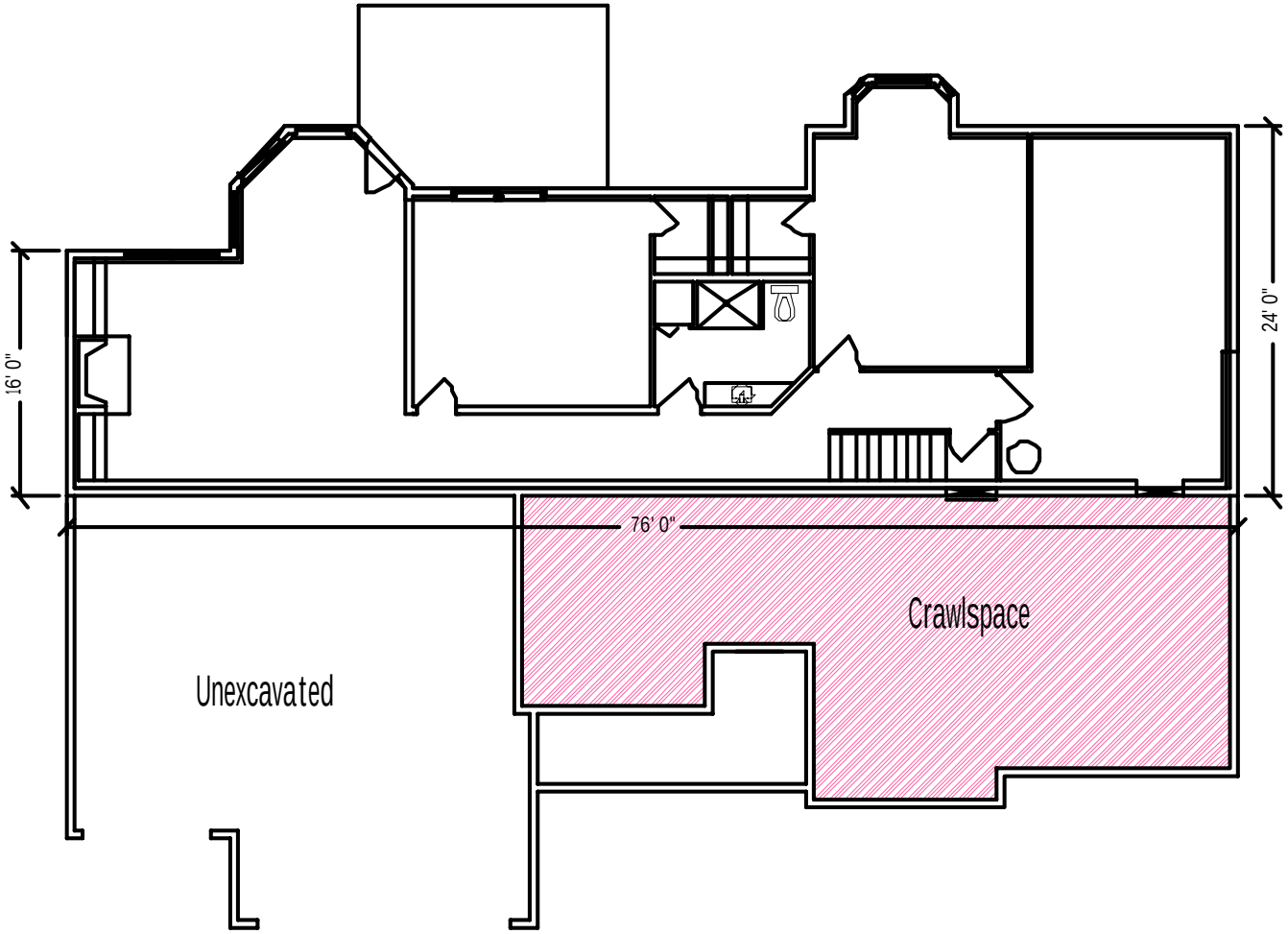
Including Rim Joists in the Exterior Wall Area



BASEMENT SECTION @ EXTERIOR WOOD WALL

Floor Area

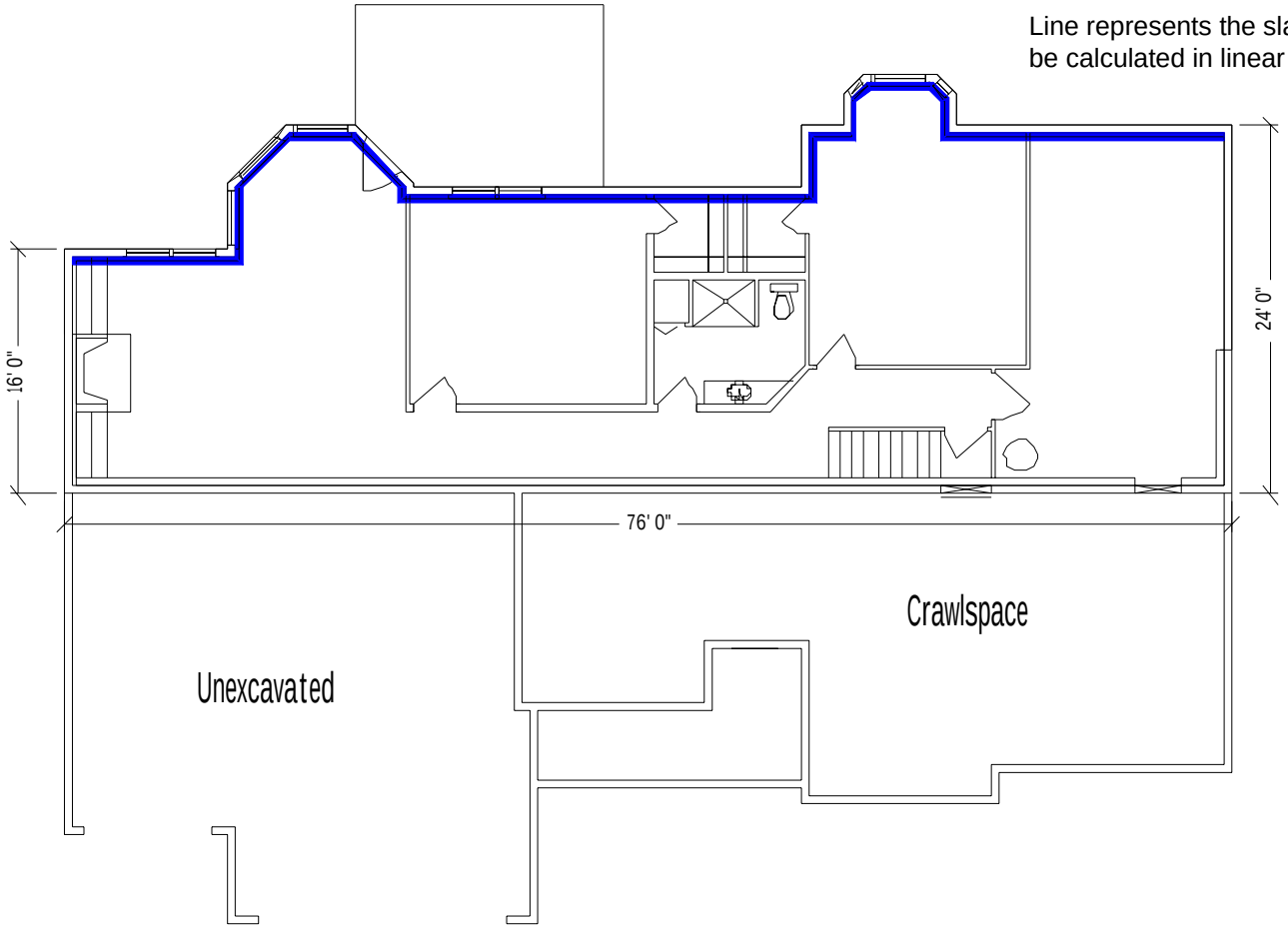
Crawlspace Area - 783 s.f.



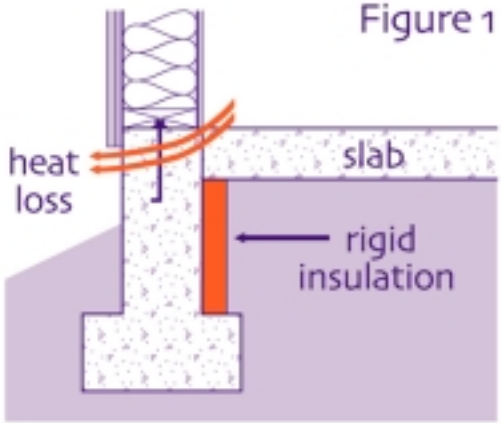
Slab Perimeter

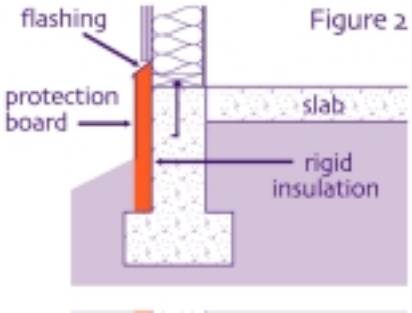
Slab Perimeter - 93 linear feet

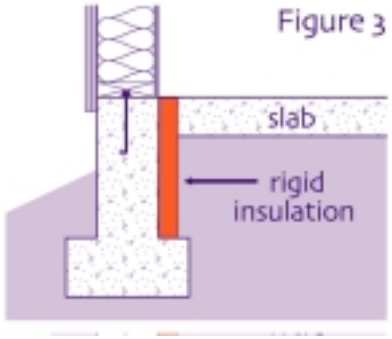
Line represents the slab edge to be calculated in linear feet.

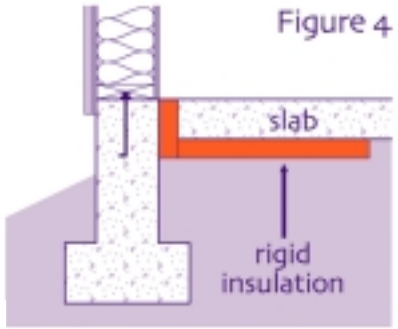


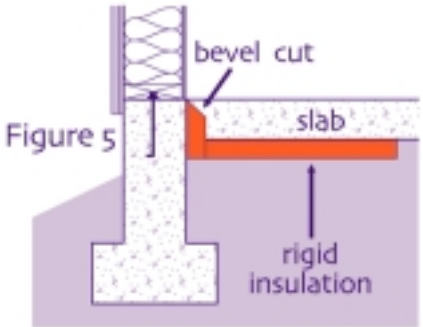
Perimeter Slab Insulation



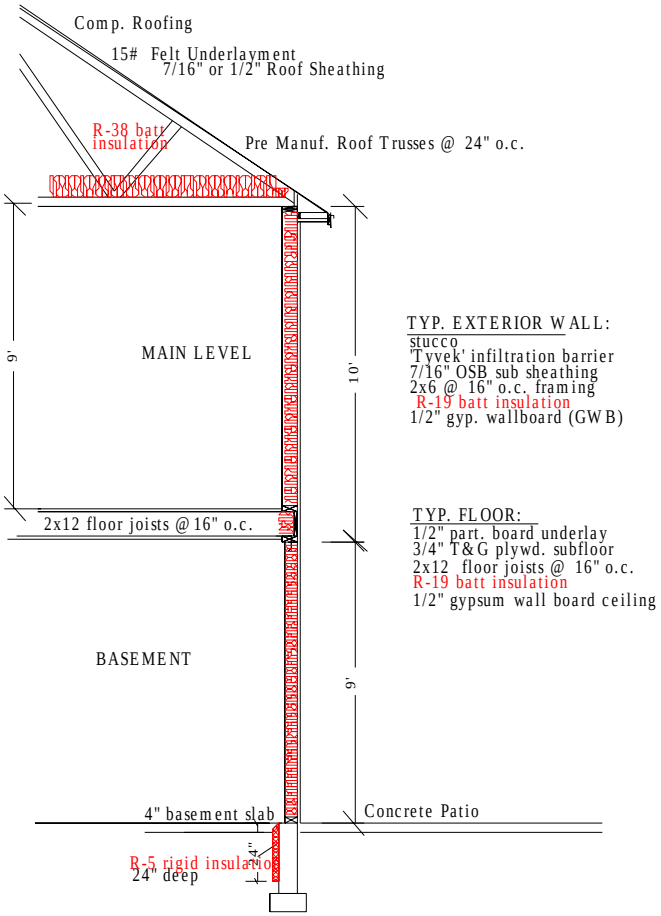


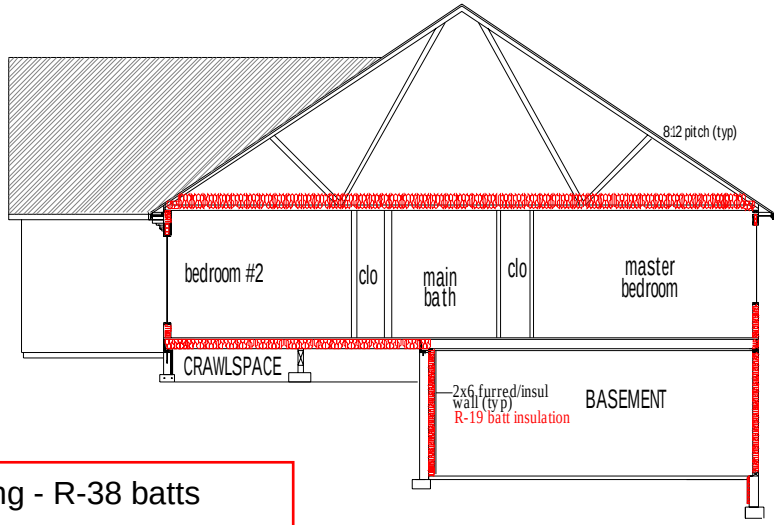






Insulation Levels



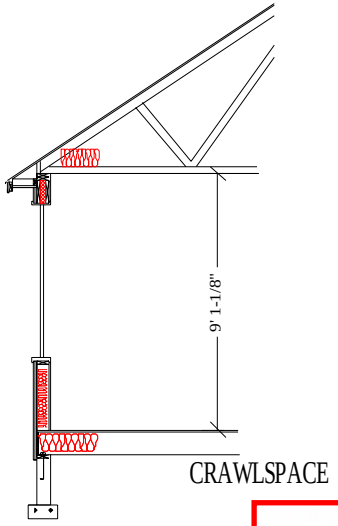


Roof/Ceiling - R-38 batts

Wall - R-19 batts

Floor - R-19 batts

Slab - R-5 rigid (24" vertical)



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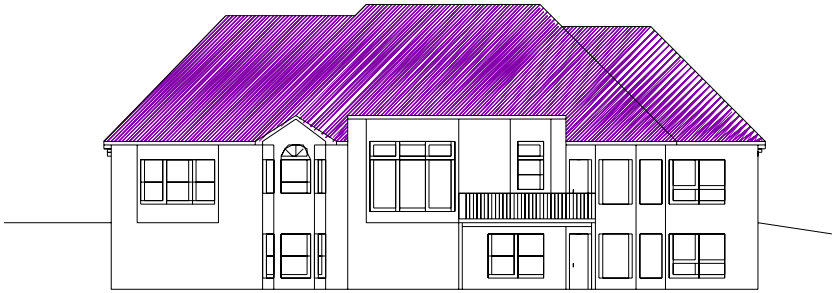
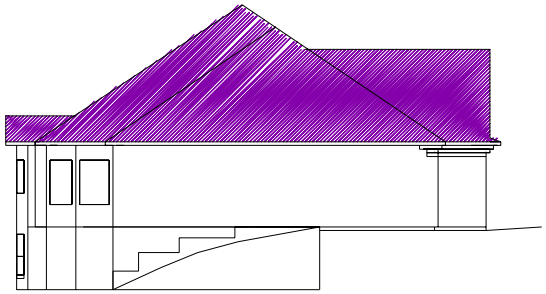
Window/ Door Area

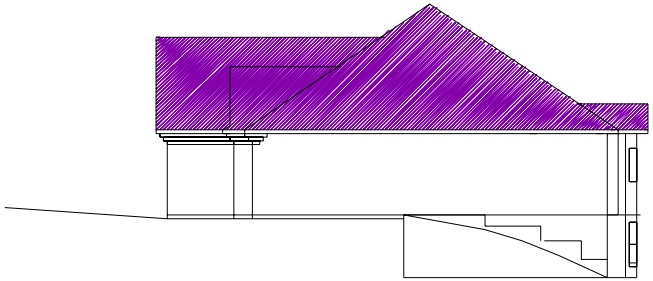
Window Area - 533 s.f.; U-value = 0.40

Glass Doors - 40 s.f.; U-value = 0.50

Opaque Doors - 40 s.f.; U-value = 0.50







☞ Window/ Door Areas

Window Area – **533 s.f.**

Glass Doors - **40 s.f.**

Opaque Doors - **40 s.f.**

AreaCalc

jones-final-v1.1.acx - AreaCalc 1.1

File Edit Library Tools Help

	Quantity	Designator	Width	Height	Unit Are	Total Ar	U-Factor	Comments/Description
1	1	60" x 68"	6'-0"	6'-8"	40.00	40.00	0.00	Glass door
2	1	30" x 68"	3'-0"	6'-8"	20.00	20.00	0.00	solid
3	1	30" x 68"	3'-0"	6'-8"	20.00	20.00	0.00	solid

Windows | Doors | Skylights | Ceilings | Walls | Basements | Floors | Slab Floors | Crawl Walls

Window/Wall Percent 14 % Door Average U-Factor 0.00

Click in the designator column to select a door.

jones-final-v1.1.acx - AreaCalc 1.1

File Edit Library Tools Help

	Quantity	Designator	Width	Height	Unit Area	Total Area	U-Factor	SHGC	Comments/Description
1	9	30" x 50"	3'-0"	5'-0"	15.00	135.00	0.00	0.000	
2	3	30" x 50"	3'-0"	5'-0"	15.00	45.00	0.00	0.000	
3	4	10" x 50"	1'-0"	5'-0"	5.00	20.00	0.00	0.000	
4	1	30" x 36"	3'-0"	3'-6"	10.50	10.50	0.00	0.000	
5	1	30" x 10"	3'-0"	1'-0"	3.00	3.00	0.00	0.000	
6	7	30" x 60"	3'-0"	6'-0"	18.00	126.00	0.00	0.000	
7	1	30" x 40"	3'-0"	4'-0"	12.00	12.00	0.00	0.000	
8	3	3' circlehead			7.00	21.00	0.00	0.000	
9	1	5' circlehead			20.00	20.00	0.00	0.000	
10	6	36" x 50"	3'-6"	5'-0"	17.50	105.00	0.00	0.000	
11	6	10" x 60"	1'-0"	6'-0"	6.00	36.00	0.00	0.000	

Windows | Doors | Skylights | Ceilings | Walls | Basements | Floors | Slab Floors | Crawl Walls

Window/Wall Percent 14 % Window Average U-Factor 0.00 Window Area Total 533.50 ft2

Click in the designator column to select a window.

MECcheck

2000 IECC